Page 21, 2nd paragraph:

Therefore, according to the present embodiment, since the reactor core 202 is placed in a bottom position in the nuclear reactor pressure vessel 201 and the control rod guide tubes 213 are disposed thereabove, a chimney effect is created. The chimney effect enhances thermally driven natural circulation flow of water heated in the core 202 up into the region containing the control rod guide tubes 213 where the water cools and sinks to the bottom of the reactor vessel for reentry into the core 202 as illustrated in Fig. 6. Thus, the chimney effect increases the natural circulation flow rate that can be obtained. Hence, the characteristic features of the natural circulation type reactor can be utilized to the maximum. Furthermore, since it is not necessary to provide re-circulation pumps, as in a conventional nuclear reactor pressure vessel, the composition of the nuclear reactor pressure vessel can be made very compact, and significant economic benefits can be obtained by associated cost reductions.

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Page 23, 1st Paragraph

Furthermore, the active devices disposed inside the dry well 231 may be minimized by using a control rod drive system that comprises upper entry type control rod drive mechanisms 211 which are built into the nuclear reactor pressure vessel 201, thereby removing control rod drive system structure from the dry well. This embodiment also features control rod drive mechanism 211 designed to low-maintenance specifications and control rods and fuel assemblies 206 designed to be used up over long-term operations (for example, 20 years or more).

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Page 23, Last Paragraph

Two isolation valves for the pressure containment vessel 401 are provided outer side of the pressure containment vessel 401. A dry well sump 409 is provided in the lower portion of the dry well 231, and reactor sump 410 is provided in a position further below the dry well sump 409. Consequently, drainage from the dry well sump 409 is able to transfer by the force of gravity to the lower positioned reactor sump 410. Therefore, no active pumps such as sump pumps are provided inside the dry well 231.

A3.

Page 24, 1st Paragraph

In this way, by integrating buildings that would otherwise have different seismic

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grades, such as a reactor building 221 and a turbine building or the like, into one building, the seismic design and construction design for the buildings can be performed together in one process, and turbines 222 and the piping or the like can be arranged together with this reactor building 221, in an integral way, on a foundation having an anti-seismic structure. Thereby, it is possible to achieve design standardization and rationalization.

Page 24, 2nd Paragraph

As described above and illustrated in the figures, the pressure containment vessel 401 has a dual-cylinder structure formed by an inner wall and an outer wall. As shown in Fig. 2, 10A and 11, the pressure containment vessel 401 comprises a dry well 231 provided on the inner side of the inner wall and a pressure suppression pool 404 provided in a portion of the volume between the inner wall and the outer wall. As shown in Fig. 2, most of the pressure suppression pool 404 volume is disposed above the reactor core 202 constituted by the fuel assemblies 206. A dry well flooding pipe 430 for injecting water from the pool into the dry well 231 under its own gravity in the case of an emergency, and a gravitational reactor core cooling water injection system pipe 234 for injecting water into the reactor core 202 are connected to the pressure suppression pool 404. Thereby, the pressure suppression pool 404 has a composition whereby the pool water contained therein also serves as a water source for a gravity driven core cooling system.

Page 25, 1st Paragraph

Supposing, for example, that a loss of coolant accident (LOCA) has occurred, then the gravity driven core cooling system pipe 234 injects water from the pressure suppression pool 404 into the reactor pressure vessel 201 via a check valve and shut-off valve (shown in Fig. 3 connected to pipe 234), and the reactor core 202 is cooled by flooding, in such a manner that a more severe accident can be prevented from occurring.

Page 25, 3rd Paragraph

Furthermore, as shown in Fig. 4, the present embodiment facilitates meeting government-imposed requirements concerning severe accident countermeasures by having no nozzles, penetrations, or the like, for making piping connections below the

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elevation of the reactor core 202 in the nuclear reactor pressure vessel 201. The main pipes connected to the nuclear reactor pressure vessel 201 only comprise, as described above, the main steam pipe 215, the feed water supply pipe 216, and the emergency core cooling system pipe 217, which are located above the reactor core 202.

Page 26, 1st Paragraph

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Therefore, it is possible to minimize the spatial volume of the lower portion of the dry well 231 surrounding the nuclear reactor pressure vessel 201, and since water can more rapidly fill this small space at a given flow rate, it is possible to achieve a structure which permits IVR (In-Vessel Retention) as a severe accident countermeasure. Namely, the retention of molten core material inside the nuclear reactor pressure vessel can be attained by rapidly flooding the dry well 231, thereby cooling the nuclear reactor pressure vessel 201 before fuel melt-through can begin and preventing the event from progressing. Thus, minimizing the spatial volume of the lower part of the dry well 231 permits it to be filled with water faster for a given flow rate. Moreover, by supplying the water to the dry well 231 rapidly, even greater safety margins can be obtained.

Page 27, 3rd Paragraph

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Moreover, an emergency condenser 225 is also provided. Steam from the nuclear reactor pressure vessel 201 is introduced into this emergency condenser 225 via an emergency condenser steam pipe 226, and is condensed in the emergency condenser 225. The resulting condensate is returned to the reactor core 202 via the emergency condensed water pipe 227. Thereby, in cases where it is necessary to shut down the nuclear reactor in a safe manner, for instance, in transient condition in the nuclear reactor or the like, it is possible to shut down the nuclear reactor at high-temperature in an isolated condition (i.e., with the nuclear reactor isolated from the turbine and the main condenser).

Page 34, 1st Paragraph

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Next, supposing a severe accident wherein the reactor core fuel melts and drops onto the base of the reactor pressure vessel, water will be injected into the reactor pressure vessel 201 from the gravity driven core cooling system pipe 234. Also, the valve 235a will be opened, or melted by the temperature, and water will be injected into